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Psychological Monographs: General and Applied

Personality Determinants of Vocational Choice¹

Leonard Small

Vocational Advisory Service

I. THE PROBLEM AND THE POPULATION STUDIED

WHAT personality factors determine the choice of a vocation? The investigation reported here has sought some of the answers to this question.

Problem. We decided to compare the vocational choices made by adjusted adolescent boys with those of disturbed adolescent boys and to study the reality- and fantasy-contents of their choices.

Assumptions. Our major assumption was that people seek satisfaction of their basic needs in every major aspect of their lives—including the vocational. When a need is consciously felt, it is subject to control and modification by realistic factors. When it is unconscious, our control is less direct and often tenuous. The person with a healthy ego is in strong contact with reality. A healthy ego permits the individual to check his drive for need-satisfaction against the facts provided by

the environment and his own faculties. A healthy ego is also willing to postpone satisfactions for a reasonable purpose, and is unlikely to seek a satisfaction in a situation which holds no promise of yielding it. The healthy ego is realistic.

This does not mean that the healthy ego does not experience fantasy—the wishful satisfaction of needs. Fantasy is common property, available to the well and ill alike. The difference rests in the nature of the individual's action: is his action dominated by fantasy or is his fantasy tempered by reality? From these thoughts our assumptions were formulated: (a) a difference between "disturbed" and "better-adjusted" individuals is to be found in the strength of their respective egos; (b) vocational choice is in good part a function of the ego; (c) people seek satisfaction of their needs in their vocations; (d) vocational choices are also based upon reality considerations; (e) vocational choices require a compromise between fantasy and reality.

Hypothesis. Does it therefore follow that adolescents with emotional disturbances are less realistic in their vocational choices than are better-adjusted adolescents? We arrived at the following hypothesis: Individuals with different ego strengths will show differences in the

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use they make of reality and wishful fantasy in making their vocational choices.

Specific problems. The formulation of subproblems emerged directly from our concern with this interaction of reality and fantasy. We directed our attention separately to reality and fantasy:

1. Can the reality content of a vocational choice be identified and evaluated?
2. Can the fantasy content of a vocational choice be identified and evaluated?

We then evolved methods for seeking answers to these questions.

The study population. To test the hypothesis we observed adolescent boys. Setting the age limits from 15 to 19 assured us adolescents in a variety of school and work situations.

Having postulated vocational choice to be an ego function, we selected boys who differed in ego strength and set up two groups: (a) a definitely maladjusted group who came to the Vocational Advisory Service from psychiatric hospitals and clinics and whom we called the Disturbed Group; (b) a better-adjusted group who came to us from schools and similar sources and whom we called the Comparison Group. In each group we selected ten boys at each age level: 15, 16, 17, 18, and 19. The ten boys in each age group consisted of eight white and two Negro boys. The religious distribution at each age level was five Catholic, three Protestant, and two Jewish boys. All the boys were native-born Americans of families in the lower-middle-class economic group. The racial and religious distributions were based upon our knowledge of the distribution of these factors

among the disturbed boys referred to our agency in the past.

The matching of subjects in the Disturbed and Comparison Groups was based on age, religion, race, and economic status of the family. We did not expect that educational or intelligence level could be used as equating factors since these two measures are depressed functionally by emotional disturbance (11). Thus we found the mean IQ of the Comparison Group to be 112.1, with an *SD* of 13.6, and that of the Disturbed Group to be 102.2, with an *SD* of 14.1. Intelligence was measured by the Wechsler-Bellevue.

The histories of the disturbed subjects assured their belonging in the Disturbed Group—histories of psychiatric hospitalizations or treatment, of witnessed behavior clearly indicating emotional disturbance. No effort was made to limit these subjects diagnostically. Accordingly we have included neurotics, psychotics, behavior disorders, and delinquents—unquestionably a disturbed group. Selecting the subjects for the Comparison Group was a more difficult procedure. The data accompanying registration for counseling was meager for this purpose; all too often a boy would emerge as a disturbed personality only after counseling was well under way and research data had been obtained from him. We could not ask these clients coming for vocational counseling to submit to a psychiatric interview, first, because that would alter the nature of our relationship with them and, second, because we were afraid we would lose many if we ventured uninvited into this area. We settled for an examination of case histories and counseling record by a psychiatrist.

II. THE REALITY CONTENT OF VOCATIONAL CHOICE

Each subject was asked to name five vocational choices in order of preference. We later limited ourselves to the first two choices because many boys would make only two choices even when pressed for more; the third, fourth, and fifth choices were usually minor variations of the first two choices.

A. RATINGS OF REALISM

Each choice was coded according to the job classifications in Part IV of the *Dictionary of Occupational Titles* of the U. S. Employment Service. These "Entry Classifications" offer a method for relating the capacities of young beginning workers to general fields of work—those in which they subsequently may be expected to progress to the full skills required by specific jobs. This volume lists the personal characteristics found important for entry into each general occupational field. We adopted these characteristics with some very minor modifications, called them Job Requirements, and applied them to each job chosen by a boy. Each listed characteristic was assigned a value of 3 on a four-point (0-3) rating scale. Using the same characteristics and scale, we then rated each subject and called these ratings Personal Characteristics. These ratings were done by the counselor with whom the boy was working. The counselor was in the best position to make Personal Characteristic ratings: he was an objectively minded person with close acquaintance with the boy, and had for some time been considering the boy in these very terms—his suitability for various general fields of work.

The two ratings—Job Requirements and Personal Characteristics—were then compared and the discrepancy between them totaled for each boy. The sum of

the discrepancy (hereafter called the Reality-Deviation Score) constitutes a numerical evaluation of the reality of the boy's choice: the smaller the discrepancy value the closer to reality is the choice. Reality-Deviations were scored separately for the first choice (RD_1) and the second choice (RD_2). The second vocational choice of some subjects fell into the same entry classification as their first choice. Since these received the same Reality-Deviation Scores for both choices, they are included only in the RD_1 findings and not in the RD_2 findings.

Table 1 shows a significant difference in the reality contents of the first vocational choice of the Comparison and Disturbed Groups. The better-adjusted boys composing the Comparison Group deviate less from the requirements of their chosen occupations than do the disturbed boys. The first choices of the members of the Comparison Group are more realistic than are those of the disturbed boys.

The difference in RD_2 follows the same trend. Although the Comparison Group is again more realistic than the Disturbed Group in the second choice, the statistical significance of the difference is not as great as it is in the first choice. Comparison of the mean RD_1 and RD_2 values for

TABLE 1
MEAN REALITY-DEVIATION SCORES FOR THE
FIRST AND SECOND VOCATIONAL CHOICES OF THE
COMPARISON AND DISTURBED GROUPS

Group	Datum	RD_1	RD_2
Comparison	Mean	15.3	21.8
	SD	10.0	10.9
	N	50	30
Disturbed	Mean	20.4	26.2
	SD	13.4	12.2
	N	50	38
Critical Ratio		8.8	1.6

the two groups separately shows that the better-adjusted subjects' second choice is less realistic than their first choice, while the second choice of the disturbed subjects is more realistic than their first choice.

We had observed this tendency as we interviewed and tested the boys. We believe that these differences emphasize the dynamics of ego balance. Contact with reality is an active relationship in which reality perceptions are constantly being integrated with fantasy or needs. Compensatory balances are maintained. The better-adjusted boys throw the full weight of their reality perceptions into their first choice—the occupational selection that means most to them. This done, they permit the fantasy components a greater role in making the second choice. The disturbed boys also show the shift of operating forces but with a different emphasis. By inference the greater the departure from reality, the stronger is the operation of fantasy. Fantasy predominates the first choices in the disturbed, and yields somewhat to reality in the second choices.

B. THE DEVELOPMENTAL THEORY OF VOCATIONAL CHOICE

After this research began, Ginzberg and his associates (5) published a contribution to a theory of occupational choice based on 64 subjects. They hold that the determinant of choice is predominantly fantasy before the age of 11 and progressively swings toward realistic factors as the child grows older.

We were able to test the application of this theory to our population because we had 100 subjects, including equal numbers of boys at the ages of 15-19.

No evidence was found supporting the developmental theory. Instead of a linear

relationship between age and reality, something different appears to take place in both groups at each age. The change is sometimes toward greater realism and at other times to less realism. The absence of a definitive trend supports our belief that the maintenance of reality perception is an active one involving compensatory balances.

C. OTHER DIFFERENCES BETWEEN THE GROUPS

As noted earlier, the first and second choices of some subjects fell into the same entry classification. Almost twice as many Comparison Group subjects ($N = 20$) made such similar choices as did Disturbed Group subjects ($N = 12$). We paid little attention to this fact until we noted that the IQ of the subjects making similar choices was higher than those whose first and second choices fell into different entry classifications.

A first thought is that this difference is purely a function of intelligence, but we are dealing here with differences in intelligence as measured by tests. That is, the lower IQ of the Disturbed Group is not necessarily the result of a difference in basic native intelligence but could reflect impairment in the use of their endowment (i.e., their relative ego weakness).

We turned our study in this direction. What IQ differences are there between those subjects whose choices are similar and those whose choices are different? We studied as well the differences in the mean subtest scatter on the Wechsler-Bellevue. As third and fourth factors we examined the mean scores of reality deviation for the first and second choices. The results of this study are tabulated in Tables 2 and 3.

The differences found are not signifi-

TABLE 2

DIFFERENCES IN THE COMPARISON GROUP IN ENTRY CLASSIFICATION, IQ, WECHSLER-BELLEVUE SCATTER, AND REALITY-DEVIATION SCORES

Entry Classification of 1st and 2nd Choices	N	Mean Age	Datum	IQ	Mean W-B Scatter	RD ₁	RD ₂
Same	20	17	Mean SD	121.3 9.3	1.79 .50	12.0 9.1	
Different	30	17	Mean SD	107.5 13.1	1.99 .51	17.5 14.8	21.8 10.9
Critical Ratio				4.4	1.4	1.5	

cant by statistical criteria. The data, however, are provocative. The trend suggests a positive relationship between similar vocational choices on the one hand, with higher IQ, less functional IQ scatter, and greater realism, on the other. A warranted assumption from clinical evidence is that acceptance of reality and greater functional intelligence are ego traits. The assumption would be extended to include the making of similar vocational choices as an ego function.

Nearly twice as many of the better-adjusted subjects make similar choices than do disturbed subjects; their IQ is higher; they perform more homogeneously on the Wechsler-Bellevue; and their choices are more realistic.

The making of similar vocational choices suggests an economy in self-perception: The stronger ego sees more clearly the limits to what the individual can do successfully. We shall return to this topic in our discussion.

TABLE 3

DIFFERENCES IN THE DISTURBED GROUP IN ENTRY CLASSIFICATION, IQ, WECHSLER-BELLEVUE SCATTER, AND REALITY-DEVIATION SCORES

Entry Classification of 1st and 2nd Choices	N	Mean Age	Datum	IQ	Mean W-B Scatter	RD ₁	RD ₂
Same	12	17	Mean SD	103.9 14.1	1.86 .44	30.8 8.7	
Different	38	17	Mean SD	101.9 15.2	2.13 .75	29.0 14.6	26.2 12.2
Critical Ratio				.4	1.6	.5	

III. THE FANTASY CONTENT OF VOCATIONAL CHOICE

It will be recalled that the second choice of the disturbed boy tends to be, on the average, more realistic than his first choice, while the second choice of the better-adjusted boy is, on the average,

less realistic than his first choice. Apparently something operates in conjunction with or in opposition to realism in the making of choices. We postulated that this other factor is the emotional needs

or fantasies of the individual.

To evaluate the fantasy content of the choice we devised a special interview—the Job-Concept interview²—to elicit fantasy about jobs. The Job-Concept interview is divided into the fantasy involved in the first choice and that involved in the second choice. These parts were rated separately on a three-point scale for each of 27 needs derived from the work of Murray (9).³

To check the Job-Concept findings we administered 15 cards of the Thematic Apperception Test and rated the responses on the same scale. In a similar effort we rated the Case History of each individual on the same scale. These additional approaches, however, were not very efficient. We found that the Job-Concept interview method was more sensitive to specific needs than either the Thematic Apperception Test or Case History methods. Only the data from the Job-Concept interview method will be reported here in detail. We refer to the ratings respectively as:

1. First Choice Job-Concept Needs—JC₁.
2. Second Choice Job-Concept Needs—JC₂.

A. THE RELIABILITY OF THE RATINGS

All data were rated by three independent judges: a counselor, the research psychologist, and the principal investigator. The counselors rated only the data of the boys they counseled, while the research psychologist and the principal investigator rated all of the boys.

The chi-square test was applied to measure the extent of agreement between

judges. Ratings within .5 of each other were said to agree. Yates's correction was used in computing all chi-square values because it is slightly more conservative than the direct method. We found the critical point to be 22 agreements, which produced a chi-square value of 4.66 and a *p* value falling between .05 and .01.

Agreement was measured separately for the ratings of JC₁ and JC₂. The research psychologist and the principal investigator agreed 200 times in 200. The other judges (counselors) seldom agreed with the research-staff judges or with each other.

The reliability of the method is based upon the agreement (200 times in 200) of the research-staff judges who lived more closely with the concepts involved in the research than the counselors and had more experience with projective techniques and with the concepts of fantasy productions.

B. THE VALIDITY OF THE METHOD

The rating scores of all subjects for each need (to account for both frequency and intensity) were totalled separately for each of the three methods. The needs obtained by each of the methods were then ranked, permitting rank-order correlations between the three methods. This procedure produced a coefficient of +.44 between the Job-Concept interview and the Thematic Apperception Test methods, and +.52 between the Job-Concept interview and Case History methods.

We conclude that the Job-Concept interview method has a capacity to assay the relative frequency and intensity of needs that is positively related to the capacity of both the Thematic Apperception Test and Case History methods to make similar assessments.

² See IV, A for description and illustration.

³ See Appendix A for the list of needs and their definitions.

C. THE FANTASY CONTENT OF THE CHOICES

To simplify the handling of the data we used the Job-Concept ratings of one of the two judges most often in agreement. We assigned a value of 0 to a rating of "None" or "Little," 1 to "Some," and 2 to "Great." Group totals were calculated for the Comparison and Disturbed Groups separately for each need. The mean of the differences between the two groups on *all* needs was used as a guide to the significance of differences between specific needs. The results of this study are found in Table 4.

Comparison of First-Choice Job-Concept Needs (JC₁) and Second-Choice Job-Concept Needs (JC₂) shows differences between the two groups of subjects which vary in degree of significance. The Comparison Group exceeds the Disturbed Group significantly (the Mean Difference or more in both JC's) in Order, Achievement, Recognition, and Affiliation. Less significantly (the Mean Difference or more in one JC and less than one Mean Difference in the other JC) the Comparison Group exceeds the Disturbed Group in Dominance, Deference, and Sympathy.

The Disturbed Group exceeds the Comparison Group significantly in Inward Pain and Tension Discharge, and less significantly in Avoidance.

In other needs one group consistently exceeds the other, but without any degree of significance (the differences in both JC's being less than the Mean Difference). In this manner the Comparison Group shows more Conservance, Retention, Attack, Autonomy, Uniqueness, and Tension Accumulation, and the Disturbed Group shows more Removal.

It is striking that both Deference and Dominance characterize the Comparison Group. This

seeming contradiction is not inexplicable. It reflects both the desire for leadership and the awareness by the subject of his inexperience and need to learn—evidence of a healthy ego, functioning to integrate wish and reality.

In handling Humiliation the Comparison Group more frequently elects to attack the source of humiliation by striving and by solution of the more difficult task. The Disturbed Group avoids activity that they suspect may be beyond their power. This is corroborated in the Affection group of needs. The Disturbed Group is characterized by the Removal need while more members of the Comparison Group seek the opportunity for Affiliation and to exercise Sympathy.

In the handling of Tension there is repeated the difference in relationship to the environment. The Disturbed Group shows more Tension Discharge (to act out their tension) while the Comparison Group, seemingly more concerned with maintaining a rapprochement with the environment, restrains this acting out and shows more Tension Accumulation. Finally, the Disturbed Group shows more of a tendency toward masochism in the Inward Pain need.

These differences reflect a difference in ego function. The members of the Comparison Group exercise their skills, talents, and intelligence in seeking an involvement with the environment. The members of the Disturbed Group turn away from the environment and in so doing restrict their egos.

Thus far we have accounted for only 18 of the 27 needs; in the remaining 9 there is observed a phenomenon we have named "reversal." An example of reversal is noted in Emulation. The Disturbed Group shows more of this need in JC₁, while in JC₂ it is the Comparison Group that shows more of the need.

In the First-Choice Job Concept the Comparison Group shows more Acquisition, Impulse Restraint, and Asking, but loses this leadership in the Second-Choice Job Concept to the Disturbed Group. Conversely, in the first JC the Disturbed Group shows more Emulation, Impulse Release, Exhibition, Justification, Outward Pain, and Dependence, but yields

TABLE 4
DIFFERENCES IN TOTAL RATING SCORES BETWEEN THE COMPARISON GROUP (C) AND THE
DISTURBED GROUP (D) ON EACH NEED AS OBTAINED FROM THE JOB-CONCEPT INTERVIEW

		Total Scores JC ₁		Differ- ence	Total Scores JC ₂		Differ- ence
		C	D		C	D	
OBJECTS—	ACQUISITION	31	22	+ 9	19	22	3
	CONSERVANCE	12	9	3	15	12	3
	ORDER	27	21	+ 6	33	24	+ 9
	RETENTION	11	7	4	5	5	0
AMBITION—	ACHIEVEMENT	29	20	+ 9	26	12	+14
	RECOGNITION	47	21	+ +26	45	27	+ +18
	EXHIBITION	24	25	1	16	9	7
HUMILIATION—	AVOIDANCE	32	33	1	27	37	-10
	JUSTIFICATION	2	3	1	3	1	2
	ATTACK	9	4	5	5	3	2
POWER—	DOMINANCE	41	35	+ 6	40	35	5
	DEFERENCE	24	18	+ 6	19	12	7
	EMULATION	26	33	- 7	29	21	+ 8
	AUTONOMY	30	26	4	27	22	5
	UNIQUENESS	7	6	1	10	6	4
PAIN—	OUTWARD	36	40	4	34	31	3
	INWARD	51	65	- -14	48	59	-11
IMPULSES—	RELEASE	11	16	5	19	8	+11
	RESTRAINT	34	30	4	23	37	-14
AFFECTION—	AFFILIATION	26	16	+10	26	13	+13
	REMOVAL	13	17	4	13	17	4
	SYMPATHY	37	28	+ 9	40	34	6
	DEPENDENCE	29	33	4	33	27	6
TENSION—	DISCHARGE	52	66	- -14	44	58	-14
	ACCUMULATE	6	3	3	3	3	0
INFORMATION—	ASKING	25	12	+ +13	22	26	4
	TELLING	6	6	0	10	2	+ 8
MEAN DIFFERENCE				6.4	8.4		

+ = C > D by once to twice the Mean Difference.
 - = C < D by once to twice the Mean Difference.
 + + = C > D by twice or more the Mean Difference.
 - - = C < D by twice or more the Mean Difference.

this primacy in the second JC to the Comparison Group.

The reversals throw some light upon the phenomenon noted in the Reality-Deviation Scores. It will be recalled that the Comparison Group tended to become less realistic in their second choice, while the Disturbed Group became more realistic in their second choice. The shift to less reality in the Comparison Group is accompanied by an increase in acting

out and environment-avoidance needs, while the shift to greater reality in the Disturbed Group is accompanied by an increase of environment-involvement needs.

Greater realism in vocational choices, therefore, is found in the individual whose ego successfully mediates against the emergence of egocentric and asocial impulses, and instead directs the personality towards relationships with ob-

jects and people, status, independence, and the exercise of talents and skills. Less realism in vocational choice is found in the individual whose ego is restricted and less successful in mediating asocial, withdrawal, and aggressive needs.

1. *Agreement between Needs of First- and Second-Choice Job Concepts*

We applied the chi-square test to ratings of needs revealed in the Job Concepts of the first and second choices of each subject to obtain a measure of the similarity or diversity that might exist in the fantasy content of the two choices.

Reference to Table 5 shows that more of the Disturbed Group show a significant agreement between the needs expressed in the Job Concepts of their two

Group. The Disturbed Group more often seeks satisfaction of similar needs in dissimilar situations. The investigation of this point was extended in two ways. We first calculated the percentage of subjects in each group showing significant agreement between the needs expressed in the Job Concepts of the two choices according to whether their choices were in the same or different entry-classification areas. Secondly, we calculated the mean number of differences between the needs expressed in the Job Concepts of the two choices according to the same grouping.

Table 6 presents the results of these calculations. The percentage column shows that of those whose choices are in the same entry classification, 50 per cent of the adjusted boys show significant agreement between the fantasy content of their two choices. Only 33 per cent of the disturbed boys show such agreement. Among those subjects whose choices fall in different classifications, 13 per cent of the Comparison Group and 45 per cent of the disturbed boys show significant agreement.

When members of the Comparison Group made similar vocational choices, more of them sought the satisfaction of similar needs in both vocations. Where members of the Comparison Group made unlike vocational choices, fewer of them

TABLE 5
FREQUENCY OF SIGNIFICANT AGREEMENT IN NEEDS BETWEEN FIRST-CHOICE AND SECOND-CHOICE JOB-CONCEPTS OF THE TWO GROUPS

Group	<i>p</i> Value		Totals
	Below .05	Above .05	
Comparison	14	36	50
Disturbed	22	28	50

choices. Such agreement would be expected where the choices are similar. But the Disturbed Group made fewer similar choices than did the Comparison

TABLE 6
PERCENTAGE OF SUBJECTS IN SAME AND DIFFERENT ENTRY CLASSIFICATIONS SHOWING SIGNIFICANT AGREEMENT IN NEEDS EXPRESSED IN JC₁ AND JC₂, AND THE MEAN NUMBER OF DIFFERENCES IN NEEDS FOR THE SAME GROUPS

Subjects	Entry Classification	Percentage Showing Significant Agreement between JC ₁ and JC ₂	Mean Number of Differences between JC ₁ and JC ₂
Comparison	Same	50	6.5
	Different	13	7.9
Disturbed	Same	33	6.3
	Different	45	6.1

sought the satisfaction of similar needs in both vocations. Fewer of the Disturbed Group sought satisfaction of similar needs in like vocations and more of them sought satisfaction of similar needs in unlike vocations.

This interpretation is reinforced by the column in Table 6 which shows the mean number of differences between the fantasy content of the two choices. The Disturbed Group members whose choices are unlike show the *least* number of differences while the largest number of dif-

ferences is shown by the Comparison Group members whose choices are unlike. This supports the conclusion that the Comparison Group members more often seek satisfaction of similar needs when the realistic situation is likely to provide them. The Disturbed Group shows a pronounced tendency to seek satisfaction of the same needs even when the realistic situation is less likely to provide them. Again we find a difference between the two groups in reality perception and in ego mediation of needs.

IV. EXAMPLES OF JOB-CONCEPT FANTASIES

As the ratings of the Job-Concept interviews were made, illustrations of specific needs emerging in job fantasy were noted, as were evidences of patterning. Examples of these needs are presented here, along with a general description of the Job-Concept interview and the record of an interview around the first vocational choice of a better-adjusted boy.

A. THE JOB-CONCEPT INTERVIEW

The Job-Concept interview was designed to elicit the fantasy content of the individual's job thinking. His vocational aversions and reasons for them are evoked. Identifications are explored. The individual's comprehension of the realities involved in his vocational choice is studied—his concept of what is done on the job and how. He is then led into an expression of deeper fantasy, by being asked to describe a future typical day of employment in his chosen work and to tell what he believes to be the attitudes of family, friends, society, and self to those in the occupation. The "typical day" and "attitudes" become projections of himself. Finally, to reach a still deeper level, we ask for the subject's actual or

made-up dreams about his vocational choices.

The following is the record of the Job-Concept interview with a better-adjusted boy about his first choice:

1. Aversions

a. Armed forces. Too regular and strict. Don't allow for human feelings. I had a cousin in the Army and a few of my mother's friends were. The work isn't unpleasant but it's mostly the regulation.

b. Policeman. They have to direct traffic. Their general policy to most people is that they are crooks or pests. Directing traffic is a mean job, standing around.

c. Elevator operator. I'd be wasting time on that. There are better opportunities than doing that.

d. Clerk. Same as elevator operator.

e. Painter. I don't really hate this but it is like a lot of jobs—no advancement and don't acquire any skills that can be beneficial to you.

2. First choice—Forester

a. Reasons for selecting. I like the country so much better. It's healthier. I like plants and animals, say nature in general. I was very interested in science. There are lots of fields in forestry that use science.

b. Identifications. I don't know anyone directly. A schoolmate of my mother's has three sons and the oldest is in forestry. I haven't met him but his mother has written a few letters about him. He's married now but besides that,

I figure he's interested in agriculture and he's lived in an agricultural place. He's young yet and likes to kid around. The things I like about his work are that I heard about his being in college—since then I've read quite a few books and pamphlets about forestry. I decided on forestry about a year and a half ago. I've known about him for a long time. He went through the course fast.

Nobody has encouraged me but my mother says if that's what I like that I should read about it.

c. Job concept. (What is done?) He's a combination—has to have the same training as a ranger that includes animal care, plant care, fire fighting and prevention. The forester has to be a director of other men and tell them how to put out a fire and figure how many more men he'll need or to plan for next season. They already have the policy but have to figure how to handle vandalism and prevent fires.

(How is it done?) He works from experience, as in the fire fighting. He sees what kind of fire it is. Figures scientific points, the way the wind is blowing, dryness of area, how many bodies of water there are and what type are in that area. Then he figures how many foresters he has in that area. Depending on these he figures how many more men and how much machinery he'll need for fire fighting.

If they have to figure animal conservation, he locates hunting areas in his sector and posts warnings for hunters and orders scarce animals brought in so he can breed them, and orders food for those that can't find their own in the winter.

It is his general duty to gather daily reports of the rangers in his area—checking on their supplies and equipment. And he has to make reports to the government.

The part that would appeal most to me is animal and plant care.

(Describe typical day) Have breakfast, check reports of all the other rangers. I'd read over reports of how many animals there were and say (smiling), "Section 14 did good." I'd need about 15 bales of hay for the next two weeks. Then I'd ride down to the south to the deer pens and ask the ranger how much food he'd need for the deer and when he could use some new fawns. After that I'd go to the intake station—this is a national park—and I'd find the intake of tourists. When the road patrol came in I'd get the names or the license numbers of any of the tourists who were troublemakers and have them posted at all outlet stations. Then I'd have to go to Section 7 and take a sample of the fungus that was getting the beech trees in that area. On the way back to my laboratory I'd pick up a broken pump that had to be fixed and take it to

the shop and drop my fungus specimen off at the lab and go home. After dinner I'd take in evening calls from the rangers and make out my daily reports. I've never been to a national park but I've read a lot so I have a good basis for it.

d. Attitudes of others. (What do people think?) They have a poor conception of it. They see men in uniform riding a horse giving them regulations. Some think it's romantic and others think it's a simple job. They're respected by the average citizen but mostly they are thought of as country cops.

(What do family think?) His wife is probably just as concerned in it as he is. Not only for his pay check but because fire and plagues may come into their lives.

Since his parents won't see much of him they wouldn't belittle it but they wouldn't think too much of it. His children might be interested in learning plant care and animal breeding because they like pets. I have about seven cats at home.

(What do his friends think?) The same as he does, for most of his friends would be foresters.

(What would a forester think?) He's proud because it is important and because he is interested in it.

e. Make up dream. When you dream, you always dream of what you'd like to happen. So I'll say a fire because that's the most important thing. I find there's a fire in the north section and know the wood is dry because the rainy season is just about to come. I get the wind speed and chances for precipitation and judge how many men I have to get up there and how fast. Then I get two airplanes. My men are all jumpers. While I'm going to the fire, I order by short wave two bulldozers and 100 axes sent to the scene. The men jump and I do too. After we cut trees to make a fire bridge, we set a back-fire and we have to get out fast. There is one tall pine tree that may cross the guys so I order a bulldozer to push it down. We have to rush around to the side because of a shift in the wind but one of my men had foreseen that possibility and took care of it. The next day we have to estimate how much damage was done and how soon trees can be planted there.

The needs expressed in the Aversions relate to Automy and Achievement. The boy shows a remote Emulation, considerable Information Asking, some Telling, Dominance, Order, and some Inward Pain. A striking need is to show Sympathy in the care of animals and plants. He shows a concern with aggression ex-

pressed in his thoughts about vandalism and fire fighting. He anticipates fire and plague (a masochistic fantasy) but also wishes to fight them (an aggressive fantasy). Following the destruction he replants and nurtures (Sympathy).

B. EXAMPLES OF JOB-CONCEPT FANTASIES

The following sections give examples of expressions of needs as they appeared in the Job-Concept interviews. Differences noted between the Disturbed and Comparison Groups are stated. Where the quotation reflects an attitude that was found as much in one group as the other, the boy is not characterized as to group. Certain constellations of needs were found to occur in patterns; these, too, are described. The needs are presented here in the order of Murray's list as modified for this study (see Appendix A).

1. Acquisition

Money, automobiles, homes, and other possessions were sought in the job fantasies. The better-adjusted boys contented themselves with reasonably high incomes, whereas the disturbed boys "waded through corridors of money." Usually another need underlies the Acquisition need. One boy, for example, wanted money so that he could placate his parents, while another boy felt that money would help him to dominate his friends. The first boy chose truck driver, the second elected commercial artist.

2. Conservance and Order

There was little difference between the disturbed and the better-adjusted in expression of these needs. They are associated with compulsive personality traits, and we found expressions of insistence on cleanliness, neat arrangement, and good working order. The better-adjusted boys more often abstracted these needs: an auto mechanic "helps the people of the United States to keep their cars going." A disturbed boy said, "It gives me a thrill to see things neat and working properly."

3. Retention

Retention fantasies were most often obtained from the boys in both groups who had difficulty

in choosing a specific field of work. A disturbed boy's reluctant first choice was inventor. His other choices were mechanical engineer, radio operator, chemical engineer, and machinist. He said:

If I couldn't have the others—if I was an inventor I'd be the others anyway—I'd be a machinist and chemist and anything else.

In analytic psychology, retention is associated with anality, with a complicated background that involves orality and relationship to the mother figure. The typical day of a disturbed boy who wanted to be an actor illustrates these connections:

I have a big breakfast. I would have a big woman beside me. I like them real stacked. She has to do everything for me—dress me, undress me . . . I go to music places and cafeterias. The women want my money but I am a miser.

The opposites of Order and Retention appeared in the job fantasies too, and were rated as Outward Pain or Impulse Release. One boy wanted to be a roofer because he liked to smear tar about. His second choice was seaman, which he finally specified as mess-boy, because "I don't mind dirt—I like to get all greasy and dirty."

4. Achievement and Recognition

These needs were more often expressed by the better-adjusted boys. They related directly to pleasure in the work done and the wish to be recognized as skillful or to achieve status.

5. Exhibition

In both groups, this need was found to be associated not only with being seen, but also with the feeling of largeness. As might be expected, the boys who chose jobs associated with the stage showed this need. It also appeared in the choices of department store buyer, preacher, policeman, florist, surgeon, and sailor.

The subjects who chose acting and dancing emphasized that these occupations would give them the opportunity for self-expression. This is more in accord with the need for these boys to be admired for their persons than with professional theatrical theory.

The expressions of this need were almost stereotyped, regardless of occupation chosen: "I'm a big name in lights and people come to see me."

The emphasis on bigness was usually accompanied by expressions of inadequacy or the feeling of smallness:

The universe is so big and people are so small. When I get to be an engineer, I'll be president of a gigantic firm and have a Cadillac a block long. My employees will greet me when I come to work in a silk top hat.

6. *Avoidance, Justification, and Attack*

Differences between the two groups were marked in the expression of these needs, which are associated with reactions to humiliation. The disturbed boys more often wanted to run away from humiliation whereas the better-adjusted boys were more likely to stand and fight off the humiliation through striving. This comes out clearly in these statements about math courses:

Disturbed boy: Well, I didn't like the stuff so I just stayed away from class.

Better-adjusted boy: I disliked math and I knew I'd flunk it if I wasn't careful so I paid special attention to it.

Avoidance was often linked with Inward Pain, and secondarily with other needs. One boy selected accounting, identifying himself with people who make errors, and avoided situations in which this might occur. He saw accounting as concrete, definite, and checkable. He expressed strong feelings of Achievement in his ability to work accurately with numbers:

I like to work with numbers. I do it well—enjoy it really. . . . It comes naturally. There's an accomplishment you can see—a definite product produced. I feel competent when doing it. It's different when I do drawing—I feel uneasy—there might be mistakes.

While reality was often avoided, fantasy was not. A boy abandoned his wish to become a doctor because he believed it was too difficult for him. He chose refrigerator mechanic instead but clung to the fantasy of himself as a doctor:

A refrigerator mechanic has to be like a doctor. He has to know what he is working with, which symptoms he is dealing with and what is wrong with the machine . . . dealing with something that has ceased to function and I put new life into it.

Justification, the offering of extenuation, was seldom encountered in either group.

7. *Dominance and Deference*

The following quotation from the interview with a boy who wanted to be a mechanical engineer illustrates our observation that the needs for Dominance and Deference were frequently found operating simultaneously:

It's good to have someone over you and someone under you. If you want to be somebody you have to be able to tell people what to do. At the same time, you have to have someone to tell you what to do.

We were not surprised to find that Deference was associated with a passive role. The typical day of a draftsman was seen by one boy in this way:

He is given ideas by his boss. . . . The boss tells him what he wants exactly and he does it. He finds out what the boss wants him to

do and then he does it.

The better-adjusted boys more often offered rationalizations for Deference, stating that there was something to be learned from other people.

8. *Emulation*

Identifications were found with either the father or mother, or with both. A boy often identified not with a total parental figure but with an isolated trait he wished to incorporate into his own personality. The motive for the identification was also a complicated variable. Identification did not always mean that the boy wished to be like a loved or admired person; often the wish took another direction—to compete with and excel.

A boy chose to be a bookkeeper. He expressed a troubled leaning toward feminine activities:

I like to cook but only for myself, not for anybody else. . . . I can't stand to see dust around. . . . I used to worry it (bookkeeper) was a girl's job—now I don't. . . . My brother and sister are no good at figures but me and my mother are.

Some of the identifications with the father were very direct. A boy said of his choice:

My father worked with radios when he came over to this country. He would approve very much. Maybe he would have liked to be a radio technician himself.

Identification with the father sometimes was accompanied by anxiety, and the boy would mask his wish. A disturbed boy named baker (his father) as an aversion because "it's too hard work for me." His choice was restaurant manager (his paternal uncle) but his fantasy of the manager's work made him a cook and a baker. His made-up dream was as follows:

I am in my uncle's shoes. I am running the place. I am doing what he is doing. I believe I would be working in the kitchen.

A better-adjusted boy chose mathematics teacher because:

. . . the work is steady. My father has a good job but it isn't steady. I hope I can hold my job.

The disturbed boys more frequently identified with a trait or a feeling associated with another person:

A friend of mine works (as a clerk) in the Chrysler Building. He says it's nice and seems to enjoy it. I'd like to be like him—he's friendly and knows how to act around people. In my character I'd like to have the good points in other people. Some people are too aggressive, others are too timid. I want to be even tempered. I need to be more aggressive. I've always been too shy. I'd like to be more polite, have more perseverance. I give up too easy.

9. *Autonomy*

Rebellion and independence are frequently assumed to characterize a phase of adolescent development. We found this true in nearly half of our entire population and slightly more often among the better-adjusted. The expressions were often the wish "to be my own boss," or "not to have to take orders."

Occasionally the need was more complicated. One boy resisted his mother's urging that he study upholstery and insisted, instead, on taking up electrical work—his dead father's occupation.

Another boy projected Autonomy into the work of chauffeur and linked with it the need for Tension Discharge, "You don't have to worry; you're on your own."

Autonomy was sometimes used as a defense against the boy's feelings of inadequacy and his dependency needs, linking the need closely to Dominance. The quotation which follows is from the record of a boy who wanted to be a shipping clerk, a job not likely to provide opportunity for Dominance:

I don't want to be a salesman because you have to depend too much on other people. . . . I like this job because people depend on you . . . you can run it on your own. . . . I wouldn't worry what my friends think. I have to live my own life. . . . I would dream that I'm the boss. I come in and give orders. They all have to jump and I check on them. . . . People go for this kind of work mainly because they like to be independent and not always be told what to do.

10. *Uniqueness*

This need appeared slightly more often in better-adjusted boys. Their need was expressed in the wish to be different, to rise above the ordinary. When it appeared in the disturbed boy it was more often involved with the bizarre, or with the power of an engine or motor.

11. *Outward and Inward Pain*

Expressions of hostile and sadistic needs were disguised by the better-adjusted boy and more openly expressed by the disturbed boy. The need emerged in the concepts of a wide range of jobs: florist, boxer, teacher, minister, military policeman, scientist, and others.

Hostility with Justification is found in this statement by a boy who wanted to be a detective: "You have to be quick with a gun and not afraid to shoot to kill. After all, you have to protect citizens." A more open and joyous fantasy emerges in this concept of a military policeman: "I'd like to pick up a rat going AWOL—I'd shoot him dead."

Very striking was the greater frequency with

which disturbed boys turned against themselves the aggression that earlier they had directed against others. Thus the boy who wanted to be a military policeman shoots a sailor in his made-up dream and then himself suffers a fractured skull.

Anna Freud (3) has described the child's tendency to "restrict" his ego as a defense against pain from external sources. She describes this defense as avoidance of activities (e.g., competitive ones) that are likely to produce pain and as a "normal stage in the development of the ego." We believe in a number of instances that the continuation of ego restrictions into adolescence is related to a masochistic tendency. One boy stated his wish to be an accountant:

I'd like to make \$25 a day; also my teacher in bookkeeping bawled me out and told me I really could become an accountant if I worked hard enough. (Then he restricts himself) I would mostly be like a bookkeeper. . . . I would worry at the end of the day that I had made a mistake . . . it's something that requires a lot of worry and responsibility.

Many boys were conscious of their ego restriction and expressed the feeling that they were not aiming high enough to win the peak of recognition. More than 60 per cent of all the boys spontaneously devalued their occupational choice (and themselves) in comparison with the physician: "People would hold it (physicist) near but not quite up to the elevation of a doctor."

When rarely a boy made a choice with an openly masochistic intent, it was always a dangerous occupation in which he foresaw injury to himself. Self-depreciation was seldom a direct determinant of the choice but rather was added to the vocation as a coloring:

I'm in the printing plant. I start the machine and something goes wrong. I open the lock, check everything and don't find anything wrong. Something goes wrong again. I open it again and check it again—oil the press—I've thought of everything. Start it—something goes wrong. I stop it again. It's coming out blurred. So I fill up the ink, check everything. It runs o.k. The bad proof gets mixed with the good stuff and the boss gives me hell. I tell him I'll do it over at my own expense.

12. *Release and Restraint*

These needs are associated with the handling of asocial impulses, and their expressions reflect varying degrees of superego control. Expressions of masturbatory fantasies are included in this section because of the superego involvement and because such fantasies and practices are a concern of adolescent boys.

The expression of Release in the Disturbed boys was direct and frequently brutal. Thus a

boy who feels the need to say, "I have good control of myself" goes on to say, "I'd write (as a journalist) about an animal that drowned . . . the most exciting thing about my day would be the fire . . . I wipe out the enemy." The better-adjusted boys showed more control: "A boxer has to fight hard. You want to kill the other guy but you have to obey the rules. Rules are important."

The hands were frequently involved in these fantasies. With Release these were expressions of pleasure in the use of the hands, in the joy of playing, manipulating, writing, handling, and in doing "dirty" work: ". . . painting, swabbing the decks, all sorts of menial tasks but I enjoy them . . . cleaning out the bilges."

Restraint expressions were accompanied by a shunning of manual work and a valuing of mental work, suggesting a displacement of affect from the hands to the head. A boy who wants to become a psychologist shows such displacement:

When I have to use my hands I don't have quite the confidence I have when I can use my mind. Mental work is exciting. . . . My family would suspect, I mean, respect me. . . . I don't know whether I'll marry a girl who makes me feel good or who I can talk to . . . training is important because it overcomes human inadequacies. . . . I see no beauty in the body. If illness is psychosomatic you have to know the mind, not the body.

13. Affiliation and Removal

Very clear statistical differences were observed between the two groups in their expressions of these needs: the better-adjusted boys consistently showed more need for Affiliation, while the disturbed boys consistently showed more need for Removal.

Qualitatively, there were differences in the expressions of Affiliation by the two groups. The better-adjusted boys showed more of a sympathetic and of an independent attitude to the people around them in their work fantasies, while the disturbed boys were more dependent and more seeking of protection. The better-adjusted boys see themselves meeting girls on the job whom they marry and with whom they rear families. The disturbed boys express need for people around them to give them approval.

Removal, characteristic of more of the disturbed boys, usually was projected into the work concepts without explanation but sometimes with an explanatory note. This boy stated his reasons for wanting to be a policeman in a matter-of-fact way: "They go into it because you can walk by yourself and deal with people only casually. You don't have to come close to them."

Other boys attempt to overcome the need to withdraw by selecting an occupation that will force them into contact with people:

You've got to sell yourself and that's what you've got to do. I'd like to get to know people better. It would help me get on with them better.

14. Sympathy and Dependence

The better-adjusted boys were consistently more sympathetic. The emphasis on Dependence shifted from the disturbed group in the first choice to the better-adjusted group in the second choice.

The expressions of Sympathy were varied, as were the apparent motives for the sympathetic attitude. The better-adjusted boys often ascribed an altruistic motive to their vocational interest: "I would design electrical equipment that would help people and make things easier for them." Variations in the motives for the sympathetic attitude emerged from statements like this one: "If I treat them good (his associates) they'll treat me good." This boy became the giver in order to become the receiver.

The sympathetic attitude sometimes is also a placating one serving to ward off aggression. A boy elected social work, stating, "I don't like people to dislike me. . . . If I found somebody I couldn't help it would hurt me."

Sometimes the sympathy need may be a mask for hostility, as with the child who starts to strike but converts the movement into a pat. Thus a boy who wished to become a florist mentioned the joy that flowers bring into people's lives, ". . . especially at funerals . . . there is so much death."

A disturbed boy saw the helpful social worker serving penance for wrongdoing: "Maybe they did something wrong in their lives and want to pay back by doing this work."

The frequency with which the need to be sympathetic was linked to the Dominance need suggested that a sympathetic, nurturing attitude is related to the need for an active role. This assumption finds support in the frequency with which the need for Dependence was found linked with a passive role. More than one-third of the boys injected a note about food or eating into their job fantasies, "A chauffeur would get in good with the cook. . . . Your boss tells you what to do."

The struggle between the wishes for active and passive roles sometimes was seen in the same fantasy:

A teacher doesn't really think about his power too much. One teacher I knew realized his power, knew he influenced children and did his best to help them. . . . It's the same rut, but I enjoy it and feel secure. . . . It's a con-

tinuous season, security, know how you stand, get regular vacation.

Sympathy is often expressed in a fantasy of restitution—giving back something that has been taken away. We have already cited one case in the fantasy about a forest fire⁴ followed by replanting. In the restitution fantasy Sympathy is a denial of or a repayment for the boy's own aggressive fantasies. The same mechanism seems to be operating in the social worker fantasy⁵ in which the person is making repayment for a wrongdoing. One more example from another field of work will show how pervasive we found the restitution fantasy to be:

I have a television set to fix. I take the truck out and bring the set back. I bang it and it's all busted up. We overhaul the whole thing. . . . I'm happy and contented because I know what I'm doing and the people will enjoy the set.

15. Tension Discharge and Accumulation

The Discharge need appeared more often in the fantasies of the disturbed boys, whereas the better-adjusted boys showed more Accumulation need.

⁴ See IV, A, 26.

⁵ See IV, B, 14.

By our definition these needs express themselves in the relieving of tension by physical acting out of the tension or avoiding the acting out in favor of brooding or restraint. Discharge and Accumulation, therefore, are closely related to Impulse Release and Restraint.

16. Asking and Telling

The element of mystery and the seeking of solutions are intermingled with the expressions of Asking:

Studying (as a doctor) would be important to me. There's so much I want to know. . . . The main thing is to find the source of illness. . . . You watch people come back from the dead to the living.

Many of the expressions of Telling involved the phrase "standing up." Thus ministers, teachers, and judges saw themselves "standing up" and telling people something, lecturing to or reprimanding them.

In several fantasies both the Asking and Telling need appeared (as in psychopathology, voyeurism and exhibitionism are frequently associated). A boy saw himself as a machinist:

. . . listening to the other fellows telling how they would do the job. It's important to know what the other guy thinks or would do. Then I'd stand up and tell them how I'd do it.

V. CONCLUSIONS, IMPLICATIONS, AND SUMMARY

A. CONCLUSIONS

The salient findings are these:

1. The vocational choices of better-adjusted boys are more realistic than those of disturbed boys.
2. The second vocational choice of better-adjusted boys is *less* realistic than their first choice; whereas the second choice of disturbed boys tends to be *more* realistic than their first choice.
3. The vocational choices of better-adjusted boys are characterized by fantasies that emphasize participation in and involvement with the environment, and its inhabitants and objects. The vocational choices of disturbed boys are characterized

by fantasies that emphasize removal from others and the environment, self-depreciation, and the acting out of impulses.

These findings support our hypothesis that individuals with different ego strengths will show differences in the role played by reality and fantasy in the making of their vocational choices.

Other findings suggest, but do not show conclusively, that adequacy of ego function may be related to:

1. Consistency in vocational choices—the making of similar vocational choices.
2. Level of functioning intelligence—measurements of intelligence by tests.
3. Homogeneity of functioning intel-

ligence—consistency of performance in the various functions measured by tests.

4. Recognition of realistic opportunities for need-satisfactions—expecting similar satisfactions in similar situations and different satisfactions in different situations.

B. IMPLICATIONS

The results of this study are related to some general problems in psychology.

1. *A Theory of Vocational Choice*

No effort is made here to derive a total theory of vocational choice; rather the findings are related to extant theories and a contribution is advanced to the development of a theory.

The partial theory derived by Ginzberg (5) is that vocational choice is a developmental process in which the individual goes through a series of distinctive states progressing from choices based largely on fantasy to choices based largely on reality. Inherent in this progression is the growing capacity of the individual to make compromises between his fantasies and the realities of his world.

We found no evidence of a developmental progression towards greater realism of vocational choice, but much evidence that reality factors and fantasy drives operate simultaneously at all ages in the selection of a vocational goal. Our findings support only the "compromise" aspect of Ginzberg's theory. How is compromise achieved?

Compromise implies that reality is perceived by the individual, who uses these perceptions to curb, mitigate, or redirect the impulses generating fantasies. The perception of reality and the control of impulses are ego functions;

compromise is a function of the adequacy or strength of the ego. We find evidence for this point in the greater realism of choices made by the better-adjusted boys, and the environment-involvement nature of their job fantasies as contrasted with the environment-avoidance fantasies of the disturbed boys.

A theory of vocational choice determination must take account of ego strength. With this factor as nearly constant as possible rather than an unknown variable, it would be possible to test the relative importance of developmental factors, interests, aptitudes, family traditions and pressures, environmental opportunities, and the host of other factors recognized as individual determinants but not yet integrated into a sound theory. Such a theory must encompass what goes into the choice, and the process by which the factors in play are consolidated into a choice.

We were unable to test the suggestions in the literature that specific needs tend to compel individuals into specific occupations. This is the concern of another investigation we have begun.

2. *Implications for Vocational Counseling*

The role of ego strength in the making of vocational choices restates what counselors have long realized: *vocational counseling, emphasizing as it does realistic factors, is best able to benefit the realistically oriented individual.*

The drive for need-satisfaction in work, its relationship to reality, and the dynamic balancing of these forces were demonstrated in our finding that the weaker ego is not without strengths. This explains another frequent observation: Counseling often is successful with emotionally disturbed individuals and when

successful contributes to their stability. Counseling has helped these individuals to utilize and enhance their real strengths and it has also enabled them to satisfy certain needs and possibly to sublimate others.

Some counseling failures are explained by the adherence to an unrealistic choice. The implication is that such individuals have relatively weak egos which are unable to control the acting out of impulses or the search for unrealistic satisfactions. *Strengthening such weak egos is the problem of the therapist, rather than the counselor.*

Our qualitative analysis of the Job-Concept interviews suggests the basis for some typical problems encountered in counseling. One problem is that of the individual who cannot make a choice. Either he has endless fields he would like, or he can find no one field of work that attracts him. Our interviews point to the presence of retentive fantasies in some such individuals; specification of a vocational choice seems to mean renunciation of other possible choices and hence a loss which they cannot permit themselves to suffer.

Many young people adhere to the choice made at an early age and progress in their fields with apparent satisfaction. Others find their fields only on an empirical basis, requiring actual job experiences before they are able to affirm a choice. This exploration requires activity—seeking jobs and moving from one job to another in the effort to find the right one. Typical problems develop among these young workers. Some are insufficiently active in seeking work and once employed, remain there even when the opportunities for development have been exhausted. Others move from job to job, not remaining in one long enough to

acquire the learning that the job provides. Lack of job-hunting activity or job movement may arise in a person with strong passivity wishes, a fear of taking an active role, or a masochistic tendency. Hyperactivity in job movement may arise as a defense against deference wishes, having needs that remain unsatisfied by the job, or from a strong acting-out impulse.

Another frequently encountered set of problems is that of young people who overevaluate themselves in the making of their choices. They seek to enter vocations for which they have little preparation or promise. If their educational background is inadequate, they steadfastly refuse to complete or strengthen their qualifications. Overevaluation may arise in adolescents with a strong exhibitionistic need, associated with a wish for bigness, and a need to offer extenuations for inadequacy rather than to attack the problem by striving.

Those who underevaluate themselves make choices far less demanding than the intelligence, skill, or responsibility of which they are capable. These young people show the operation of a self-imposed ego restriction which is linked with masochism.

All of this points to the necessity for counselors to have the means for identifying and working with the personality needs of their adolescent clients. The means would include instruments for eliciting and evaluating needs (e.g., the Job-Concept interview) and the personal training and insight to relate such findings to the counseling of the individual. Counselors also need knowledge of the range of possible satisfactions or sublimations that are afforded by each job area. This knowledge is usually already available to the skilled counselor through his

intimate acquaintance with varieties of jobs, their slight internal variations as well as marked ones, their training requirements, and their availability. The job knowledge which most counselors already have would achieve its greatest utilization when coupled with a method for identifying the pressing needs of a young person as he relates them to his vocational choice.

3. *Implications for Further Research in Ego Functions*

This investigation has established and measured one ego function—realism of vocational choice. The data also indicate that consistency of vocational choices, functional level, and homogeneity of intelligence, and recognition of realistic opportunity for need-satisfactions may be aspects of ego function. With further research and development of instruments, these, too, may be measurable.

What could be served by further efforts to measure ego functions and functioning? Education and psychotherapy will be considered here.

Teachers have long recognized the difficulties of the "average" program for the child of below- or above-average intelligence. More puzzling has been the bright child who learns poorly, or the dull child who learns well—each at a level of instruction geared to his intelligence. Inquiry into the ego functioning might illuminate this problem. Better programming and grouping of students might be the reward of information about the way in which ego strength affects learning when the IQ is constant.

Psychotherapists feel the need to evaluate the progress of an individual under treatment, and to compare the relative effectiveness of different treatments. Clinicians have tried "before and after" studies using projective testing methods, but without satisfactory results.

This state of research affairs may arise from the very nature of projective techniques and their stimulation of primary impulse processes which change very little, if at all, in the therapeutic process. What does change in successful therapy is the ability of the individual to mediate between these impulses and the demands of reality—the strength and functioning adequacy of the ego component of the personality.

The delineation of ego functions and the development of instruments for their measurement should further the ability to evaluate both the therapeutic progress of individuals and the effectiveness of different treatments.

C. SUMMARY

This study explored the interaction of reality and fantasy in the making of vocational choices. Assuming that vocational choice is an ego function, we selected two groups of subjects: 50 better-adjusted boys with relatively strong egos between the ages 15-19, and 50 disturbed boys of the same ages with relatively weak egos.

Vocational choices were obtained from the subjects, who were all receiving vocational counseling. The boys were rated by their counselors for the degree to which they possessed the personal characteristics required by the vocations they had selected. The extent of deviation of characteristics possessed from characteristics required was termed a Reality-Deviation Score. The better-adjusted boys were consistently more realistic in their choices than were the disturbed boys. The data also suggest that a positive relationship may exist between the selection of similar occupations for the first and second choices and (a) higher IQ, (b) less subtest scatter on the Wechsler-Bellevue, and (c) greater realism in relating personal characteristics to job requirements. It is suggested that these factors are to some extent ego functions.

Within the age group studied, no evidence was found supporting Ginzberg's theory that occupational choice is a developmental process leading chronologically to increasing realism as a determinant of choice.

Evidence is presented for accepting the reliability and validity of the Job-Concept interview method for assaying the fantasy or needs content of vocational choices. The three methods employed for assessing needs—the Job-Concept interview, the Case History, and the Thematic Apperception Test—vary in their

sensitivity to the 27 needs rated, with the Job-Concept interview being sensitive to more needs than either of the other two methods.

The better-adjusted subjects show more of the needs that are associated with environment-involvement, forming relationships, and the exercise of skills and talents. The disturbed subjects show more of the needs that are associated with

environment-avoidance, and the restriction of both relationships and exercise of talents. Disturbed subjects show more of a tendency to seek satisfaction of the same needs in each of two dissimilar vocations.

Some implications of the findings for a theory of vocational choice, for vocational counseling, and for further research in ego functions are discussed.

APPENDIX A

Definitions of needs used in this study are presented here. We adopted Murray's (9) needs, making a few changes and additions, simplifying the terminology and standardizing the definitions as follows:

A. NEEDS ASSOCIATED WITH INANIMATE OBJECTS

1. *Acquisition*. To gain possession of property. To grasp, steal, or snatch things. To bargain or gamble. To work for money or goods. To borrow.
2. *Conserveance*. To collect, repair, clean, and preserve things. To protect against damage.
3. *Order*. To arrange, organize, put away things, be tidy and clean.
4. *Retention*. To retain possession of things. To refuse to give or lend. To hoard, be frugal, economical, and miserly.

B. NEEDS ASSOCIATED WITH AMBITION, ACCOMPLISHMENT, AND PRESTIGE

1. *Achievement*. To overcome obstacles, to exercise power. To do the difficult quickly and well. To emphasize the achievement.
2. *Recognition*. To excite praise, respect. To boast, seek distinction, social prestige, honors, high office. This need is related to the next.
3. *Exhibition*. To attract attention to one's person. To excite, amuse, shock, and thrill others. Self-dramatization.

C. NEEDS ASSOCIATED WITH HUMILIATION

1. *Avoidance*. To avoid failure, shame, humiliation, ridicule. To refrain from doing something beyond one's power. To conceal a disfigurement.
2. *Justification*. To defend self against blame or belittlement. To justify one's actions. To offer extenuations, explanations, and excuses. To resist probing.
3. *Attack*. Proudly to overcome defeat by striving and retaliation. To select the hardest tasks. To defend one's honor in action.

D. NEEDS ASSOCIATED WITH HUMAN POWER

1. *Dominance*. To influence or control others. To persuade, prohibit, dictate. To lead, direct, restrain. To organize behavior of a group.
2. *Deference*. To admire and willingly follow a superior. To serve gladly.
3. *Emulation*. To empathize, imitate, emulate, identify with. To agree and believe.
4. *Autonomy*. To resist influence or coercion. To defy authority and seek freedom. To strive for independence.
5. *Uniqueness*. To act differently from others. To be unique. To take the opposite side. To hold unconventional views. To be bizarre.

E. NEEDS ASSOCIATED WITH INJURY AND PAIN

1. *Outward*. To assault and injure. To belittle, harm, blame, accuse, ridicule. To punish severely.
2. *Inward*. To surrender, comply. To accept punishment. To apologize, confess, atone.

F. NEEDS ASSOCIATED WITH ASOCIAL IMPULSES

1. *Release*. To disregard social and conventional inhibitions. To act impulsively regardless of consequences, blame, or punishment.
2. *Restraint*. To avoid blame, ostracism, or punishment by inhibiting asocial or unconventional impulses. To be well behaved and obey the law. To inhibit the impulse.

G. NEEDS ASSOCIATED WITH AFFECTION BETWEEN PEOPLE

1. *Affiliation*. To form friendships and associations. To greet, join, live with others. To cooperate. To join groups.
2. *Removal*. To snub, ignore, exclude. To be aloof, indifferent, discriminating.
3. *Sympathy*. To nourish, aid, or protect. To be sympathetic, motherly.
4. *Dependence*. To seek aid, protection, sympathy. To cry for help, plead for mercy. To be dependent.

H. NEEDS ASSOCIATED WITH TENSION

1. *Discharge*. To relax, amuse self, laugh, joke, play games, avoid serious tension.
2. *Accumulate*. To brood, worry, mourn. To avoid or delay release of tension through physical activity or companionship.

I. NEEDS ASSOCIATED WITH INFORMATION AND KNOWLEDGE

1. *Asking*. To explore, question, satisfy curiosity, look, listen, inspect. To read, seek knowledge.
2. *Telling*. To demonstrate, to relate facts. To give information, explain, interpret, lecture.

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